

**Method for Pre-Processing Speech****Abstract**

The invention provides a method for pre-processing speech, in particular in a method for recognizing speech, comprising the steps of receiving a speech signal (S), separating a spectrum (F) of said speech signal (S) into a given number (N) of predetermined frequency sub-bands ( $F_1, \dots, F_N$ ), analyzing said speech signal (S) within each of said frequency sub-bands ( $F_1, \dots, F_N$ ), thereby generating respective band-dependent acoustic feature data ( $O_1, \dots, O_N$ ) for each of said respective frequency sub-bands ( $F_1, \dots, F_N$ ), which band-dependent acoustic feature data ( $O_1, \dots, O_N$ ) are at least in part representative for said speech signal (S) with respect to a respective frequency sub-band ( $F_1, \dots, F_N$ ), deriving band-dependent likelihoods ( $b_1, \dots, b_N$ ) for occurrences of speech elements ( $P_1, \dots, P_m$ ) or of sequences thereof within said speech signal (S) based on said band-dependent acoustic feature data ( $O_1, \dots, O_N$ ) and/or a derivative thereof, analyzing said speech signal (S) within said entire spectrum (F), thereby generating full-band acoustic feature data (FBE-F; FFBE; FBE-F-SSUB;  $O_{F,SSUB}$ ), which are at least in part representative for said speech signal (S) with respect to said entire spectrum (F), deriving a full-band likelihood ( $B_{FF}$ ;  $B_{SSUB}$ ) for occurrences of speech elements ( $P_1, \dots, P_m$ ) or of sequences thereof within said speech signal (S) based on said full-band acoustic feature data (FBE-F; FFBE; FBE-F-SSUB;  $O_{F,SSUB}$ ) and/or a derivative thereof, deriving an overall likelihood (B) for occurrences of speech elements ( $P_1, \dots, P_m$ ) or of sequences thereof within said speech signal (S) based on said band-dependent likelihoods ( $b_1, \dots, b_N$ ) and said full-band likelihood ( $B_{FF}$ ;  $B_{SSUB}$ ).

Fig. 1